**December 2007 Update**

# Summitville Mine Superfund Site

**Rio Grande County, Colorado**
**(Review Date: 9/27/05)**

## *Highlights Since the 2005 Five-Year Review*

- **Mine pool mitigation technology discussions underway**
- **Wightman Fork Diversion and the SDI spillway upgrade construction Project is slated for 2008 completion at a cost of $2.0 Million.**

**Brief Site History:** The Summitville Mine Site is located in the San Juan Mountains of south central Colorado, about 40 miles west of Alamosa, Colorado. Mining in the Summitville District has occurred since the 1870's, when gold was discovered on South Mountain. Shortly thereafter, shafts and adits were constructed to access gold-bearing veins. The Reynolds Adit, the lowermost adit in South Mountain, was completed about 1906 to haul ore and drain upper mine workings. Mining and ore processing operations occurred intermittently in the Summitville Mining District through 1992.

During the most recent mining operations (1984 through 1992), the South Mountain mineral reserves were developed as a large tonnage, open-pit operation. Gold and silver were extracted from the ore in a large, on-site heap leach pad. Acid mine drainage and cyanide releases from the open-pit mine and heap leach pad operation adversely impacted downstream water users and aquatic life in the Alamosa River and San Luis Valley. The mine operator declared bankruptcy in December 1992 and the EPA assumed control of the site as part of an Emergency Response Removal Action. The site was added to the Superfund National Priorities List on May 31, 1994.

**Cleanup Activities Completed**: The following cleanup activities have been completed: Backfilling mine waste into the existing open pits, thus reducing water percolating into the ground; Rinsing the heap leach pad to reduce the levels of cyanide; Regrading and capping the heap leach pad to reduce the infiltration of snow melt and precipitation; Plugging two mine adits to significantly reduce drainage from the mine workings; Constructing a 90 million gallon wastewater holding pond for eventual treatment to remove metals and acidity; Revegetation of 250 acres of mining-disturbed land; Retrofitting the "old" water treatment plant to successfully treat 1.4 million gallons of water per day.

**Current Status:** The site-side Record of Decision (ROD) was signed September 2001. This ROD defined the final actions required to stabilize the site in perpetuity, which included: rehabilitation of the adits, groundwater and contaminant

source collection, pipelines and an impact basin and a sedimentation pond at the base of South Mountain Improvements to the Wightman Fork Diversion and Summitville Dam Impoundment (SDI) spillway channel is scheduled for 2008. A new water treatment plant is scheduled for construction in 2010.. Due to limited funding, only a few of the final remedial elements have been completed. These include: the groundwater and contaminant source collection, pipelines and impact basin, and the sedimentation pond. Plans for improvements to the Wightman Fork Diversion and the SDI spillway channel were completed in 2007; a $2 Million upgrade construction project is slated for 2008 completion.

**Summary of Protectiveness:** There are no human health impacts. Environment impacts included metals and acidity released to the Alamosa River. Metals concentrations have decreased significantly and pH values have increased in the Alamosa River downstream of its confluence with the Wightman Fork as a direct result of the interim response and the final remedial actions. However, the Summitville Mine remains as a dominant contributor of copper, zinc and cadmium to the Alamosa River Watershed. Though significant strides have been made in approaching the aquatic water quality standards in the Alamosa River, exceedances continue to occur for much of the river and the Terrace Reservoir. Aquatic life is returning in the lower parts of the watershed, the Terrace Reservoir and Segment 3d. 1) Increased water treatment plant and, 2) Storage impoundment capacity are critical components in stabilizing the site. At this time, more contaminated water is generated at the Summitville Mine Superfund Site then can be stored or treated in average or above precipitation years. As a result, untreated water may be released from the site causing significant impacts to aquatic life and river environment. Therefore, implementation of these two critical and final components is necessary to achieve the water quality standards and restore aquatic life in the Alamosa River.

**Issues Impacting Protectiveness:** Issues were noted during the five-year review of the site. The following table summarizes the status of the follow-up actions addressing these issues.

**Summitville Mine Superfund Site**
**Five-Year Review Update Table**
**(Review Date: 9/27/2005)**

| Issues | Recommendations/ Follow-up Actions | Follow-up Actions (Status/Due Date) | Status of Follow-up Actions 12/07 | Responsible Party |
|---|---|---|---|---|
| **1) Implement the remaining OU 5 remedial components as soon as funding permits.** | Construction of a large capacity water treatment plant, continue to evaluate the SDI capacity | On hold until funding appropriated | Conducting a value engineering study for Final Remedial Design in 2008. | EPA and Colorado Department of Public Health and Environment (CDPHE) for construction. |
| **2) Investigate remedy options for controlling non-point source discharges.** | Continue to monitor performance | Diversion completed 2005. | Completed | CDPHE |
| **3) Revise the site hydraulic model and water balance.** | Conduct for Wightman Fork Diversion and SDI spillway channel | | Initiated in 2006, completed in 2007 | CDPHE |
| **4) Reynolds Adit rehab or long-term stabilization.** | Conduct annual safety inspections and a detailed inspection prior to 2010 five-year review | On hold | On hold | |
| **5) Explore permanent, passive or semi-passive remedies to control contaminant sources.** | | | Engaging in a discussion regarding a mine pool mitigation technology. | EPA and CDPHE |
| **6) Monitor all on-site and off-site remedial elements and affected media.** | Ongoing | Annual reports | | CDPHE |
| **7) Conduct on-site groundwater and seep sampling.** | Conduct on-site groundwater seep sampling. | Prior to 2010 five-year review. | | CDPHE |
| **8) Conduct off-site sediment and aquatic life sampling in the Alamosa River** | Conduct off-site sediment and aquatic life sampling in the Alamosa River | Prior to 2010 five-year review. | | CDPHE |

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|---|---|---|---|---|
| **9) Restocking of fish in Terrace Reservoir.** | Requires concurrence with the Division of Wildlife | Planned for 2008 | | CDPHE |
| **10) Prepare a Use Attainability Analysis (UAA) for the Water Quality Control Commission (WQCC) to change the Alamosa River underlying Al. std.** | Prepare UAA | Completed in 2007 | Completed | CDPHE |